

AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings includes changes to Figs. 1 and 2. These sheets, which include Figs. 1 and 2, replace the original sheets including Figs. 1 and 2.

REMARKS/ARGUMENTS

Claims 1-14 stand rejected in the outstanding Official Action. Claims 2, 4 and 14 have been cancelled without prejudice and claim 1 amended. Therefore, claims 1, 3 and 5-13 are the only claims remaining in this application.

The Examiner's acknowledgment of Applicants' claim for foreign priority and receipt of the certified copy of the priority document is very much appreciated. Additionally, the Examiner's consideration of all references identified in the previously filed Information Disclosure Statement is appreciated.

The Examiner suggests that the listing of PCT/GB02/00745 in Applicants' specification is not a proper Information Disclosure Statement. Applicants have not represented that it was an Information Disclosure Statement and, instead, it was cited as being a co-pending application. However, Applicants have identified the co-pending U.S. national phase application resulting from the identified PCT International application by the above amendment.

The drawings stand variously objected to in the outstanding Official Action. Figure 1 has been amended to clearly identify it as "Prior Art" thereby obviating any further objection thereto. Figure 2 has been modified to show angle θ as discussed on page 6, line 12 of the specification. Angle θ is the angle between a local tangent to the curvature of the corrector of the scanner 202 and a normal to axis 214. This amendment to Figure 2 is believed to obviate any further objections to the drawings set out in section 3 of the outstanding Official Action.

The Examiner alleges that the drawings do not meet the requirements of Rule 83 and allegedly fail to show "the optical correcting being arranged to support the polarizing element on a surface (claim 3)" Claim 3 does not recite any "correcting" and it is assumed that the

Examiner is referring to the optical corrector 222. Additionally, claim 3 does not specify that the optical corrector supports the polarizing element on a surface. Rather, claim 3 specifies that the optical corrector is physically located between the polarizing element and the radiation detector. By reference to Figure 2, the Examiner will appreciate that the optical corrector is item 222 and that this element is located between focusing and polarizing dish 218 (generally identified as polarization selective reflector element 220) and detector 210, exactly as specified in claim 3. Thus, the subject matter of claim 3 is clearly disclosed in the drawings and any further objection thereto is respectfully traversed.

Claims 1, 12 and 14 stand rejected under 35 USC §102 as being anticipated by Lettington (WO 00/14587). Applicants have cancelled without prejudice claims 2, 4 and 14, but has amended independent claim 1 to recite that the second curved surface of the optical corrector is adapted to correct aberrations in the optical system. It also recites that the polarizer is adapted to focus by reflection radiation of the second polarization. Claim 1 also includes the subject matter of claims 2 and 14 and is limited to systems in which the polarizer acts as a focusing element for reflected radiation. The basis for these amendments can be found in previously pending claims 2, 4 and 14 and also on page 6, lines 24-25, page 7, lines 5-8 and page 7, lines 28-30.

Amended claim 1 is believed clearly novel over the Lettington patent. Lettington does not show a millimeter wave detection system having a polarizer as part of its optics where the polarizer is supported by a correction lens element. Lettington does not disclose a polarizer having a focusing capability when reflecting radiation. These positively recited features in Applicants' amended claim 1 clearly distinguish over the Lettington reference and any further rejection thereof under 35 USC §102 is respectfully traversed.

Claims 2-4, 7 and 9 stand rejected under 35 USC §103 as unpatentable over Lettington. Inasmuch as claims 2 and 4 have been cancelled without prejudice and claims 3, 7 and 9 ultimately depend from claim 1, the above comments distinguishing Lettington from claim 1 are herein incorporated by reference.

The Official Action provides no suggestion as any reason or motivation for modifying the Lettington teaching. The current invention, in positioning the correction lens adjacent the polarizer with the polarizer on a convex surface thereof, adds a substantial versatility to the optical arrangement which could not have been anticipated prior to the invention. This is because the arrangement places the correction lens element away from the entrance pupil of the system and therefore is particularly suited to the correction of off-axis optical aberrations such as coma and astigmatism. This is not the case for the corrector in Lettington where its location in the optical path (at or about the position of the entrance pupil) means that is perhaps suited to the correction of spherical errors, but not the optical aberrations noted above.

Another advantage of the present invention is the correction of off-axis errors in the claimed matter allows the overall diameter of the system to be significantly reduced while still retaining a relatively wide field of view. This was an unexpected benefit to the present invention.

Moreover, Lettington, while not showing a polarizer supported on an optical corrector, seems to teach away from the current invention, as its preferred embodiment uses a Mangin mirror (see Figures 17 and 18 and the related description in Lettington) where the scanning mirror incorporates a dielectric coating that provides some focusing action. The present invention effectively moves the lens from the scanning mirror (where it adds bulk and

mechanical inertia to the system in Lettington) to the polarizer in the current invention, which is stationary and does not suffer from these problems. There is believed no suggestion in Lettington by which one of ordinary skill in the art would seek to modify the Lettington device in the manner of Applicants' independent claim 1 or claims dependent thereon. Therefore, any future rejection of claim 1 and any further rejection of claims dependent thereon over the Lettington reference by itself is respectfully traversed.

Claims 5, 6 and 10 stand rejected under 35 USC §103 as unpatentable over Lettington in view of Silver ("Microwave Antenna Theory and Design" 1997). Inasmuch as claims 5, 6 and 10 depend from amended claim 1, the above comments distinguishing claim 1 from the Lettington reference with respect to the §102 and §103 rejections are herein incorporated by reference.

The Examiner does not allege that the Silver reference supplies the elements and interrelationship between elements which, as noted above, are present in amended claim 1 and are missing from the Lettington teaching. As a result, even if Lettington and Silver were combined, they could not render obvious the subject matter of claims 5, 6 and 10. Additionally, as noted above, since Lettington appears to teach away from the claim 1 subject matter, any *prima facie* case of obviousness is rebutted with respect to claims 5, 6 and 10.

Claims 8, 11 and 13 stand rejected under 35 USC §103 as unpatentable over Lettington in combination with Stenberg (U.S. Patent 4,224,626), Auletto (U.S. Patent 4,482,513) or Nikolov (U.S. Patent 4,687,784), respectively. Each of claims 8, 11 and 13 ultimately depend from claim 1 and therefore the above points distinguishing amended claim 1 from the Lettington reference under 35 USC §102 and §103 are herein incorporated by reference.

In each of paragraphs 10, 11 and 12 of the Official Action, the Examiner fails to allege that the cited secondary reference supplies the teaching of the elements and interrelationship between elements recited in claim 1 which have been noted as missing from the Lettington reference. Accordingly, even if Lettington were combined with these secondary references, it cannot teach or render obvious the subject matter of claims 8, 11 and 13 and any further rejection thereunder is respectfully traversed.

Having responded to all objections and rejections set forth in the outstanding Official Action, it is submitted that remaining claims 1, 3 and 5-13 are in condition for allowance and notice to that effect is respectfully solicited. In the event the Examiner is of the opinion that a brief telephone or personal interview will facilitate allowance of one or more of the above claims, he is respectfully requested to contact Applicants' undersigned representative.

Respectfully submitted,

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